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EXAMINER

BURNEY, RACHEL L

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The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/575,662  
Filing Date: April 14, 2006  
Appellant(s): UEDA ET AL.

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Edward A. Meilman  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 05/13/2009 appealing from the Office action mailed 03/13/2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

|             |           |          |
|-------------|-----------|----------|
| 6548168     | Mulvaney  | 4-2003   |
| 5853938     | Nakazawa  | 12-1998  |
| 20010051311 | Hakata    | 12--2001 |
| 20020191983 | Mizuno    | 12-2002  |
| EP-0949027  | Nakatsuka | 10-1999  |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5-7, 10, 15, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6548168, Mulvaney et al.

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With respect to claims 1, 5-7, 10, and 20-22 Mulvaney discloses particles which are formed by reacting the particles with a bifunctional ligand, then are coated (column 7, lines 26-42), wherein the particle may comprise a metal such as copper or silver, or a metal oxide core (column 4, lines 64-67) which the second functional group of the bifunctional ligand may comprise a silica (column 5, line 53 – column 6, line 38) and may have multiple layers of coatings (column 6, lines 58-59). The particles may further have a polymer coating (column 6, lines 39-43).

With respect to claim 15, Mulvaney discloses the process of producing the particle of claim 5 as discussed above, wherein the particle is spherical (column 4, lines 52-53).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6548168, Mulvaney et al. as applied to claim 1 above, and further in view of US Patent 5853938, Nakazawa et al. Mulvaney discloses the process of producing the

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particle of claim 1 as discussed above, wherein the particle is heated (column 12, line 55) and the desired particle is spherical (column 4, lines 52-53), but fails to teach a cooling step to produce a spherical product. Nakazawa discloses a coated particle that is rapidly cooled after the formation of the coating layer to prevent coalescence and produce a spherical product (column 6, lines 45-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a cooling step in the process of Mulvaney to produce spherical particles as taught in Nakazawa.

5. Claims 9, 11-14, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6548168, Mulvaney et al. as applied to claims 5-7 and 15 above, and further in view of European patent application 0949027, Nakatsuka et al., US PGPub 2001/0051311, Hakata, and US PGPub 2002/0191983, Mizuno et al.

Mulvaney discloses the process of producing the particle of claim 1 as discussed above, but fails to teach the desired size of the particle or the combination of the particle and an electrophotographic carrier. Nakatsuka discloses a particle having a metal core, which may be copper (PP 0007), which has a first coating of silica (PP 0051) and a possibly polymer coating (PP 0016), which may be used in an ink, a toner, or a pigment (PP 0001). Nakatsuka fails to teach the desired size of the particle or the combination of the particle and an electrophotographic carrier. Hakata discloses that developers comprise toners and carriers (PP 0020), but fails to teach the desired size of the toner particle. Mizuno teaches a toner in a developer which has an average particle diameter of about 5-30mm, which is the ideal range to improve image resolution and the separating

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property of the image (PP 0123). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the particle of Mulvaney in a toner because it is similar to the toner particle of Nakatsuka, and to use the toner in a developer, which comprises an electrophotographic carrier, as taught by Hakata, having a particle size of 5-30mm to improve image resolution and the separating property of the image formed by the toner, as taught by Mizuno.

### **(10) Response to Argument**

#### Claims 1, 5-7, 10-15, and 20-22 are not anticipated by Mulvaney

Appellant argues that Mulvaney contains no teaching of a process in which a coupling agent is absorbed onto the surface of a silica-coated metal and thereafter a resin coating is formed by polymerizing a polymerizable monomer. The examiner respectfully disagrees. Mulvaney discloses a metal particle (column 4, lines 64-67) and a "bifunctional ligand" which comprises two functional groups (column 4, lines 24-28), wherein the ligand is defined as A-X-B where A may be a siloxy and B may be a silane, and X is an optional linking group (column 2, lines 26-44). The particle is coated with a coating layer which may be a preferred silica coating layer (column 6, lines 39-53, especially lines 52-53). The first functional group of the bifunctional ligand is selected so as to bind to a particle that has been coated (column 5, lines 49-53), the second functional group may be used to apply an organic coating such as a conducting polymer to the surface. The second functional group of the bifunctional ligand may be an unsaturated ethylene or allyl group which can couple to the alkyl chains of the polymer

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coating (column 5, line 64 - column 6, line 3). Therefore Mulvaney teaches a silica-coated metal, which is reacted with a silane-containing bifunctional ligand and then coupled with an organic conducting polymer coating.

Claim 2 is not obvious over Mulvaney in view of Nakazawa (appellant noted 'Nakawaza')

Appellant argues that Nakazawa does not cure the deficiencies of Mulvaney. The examiner asserts that Mulvaney does not have the deficiencies as stated above.

Claims 9, 11-14 and 16 are unobvious over Mulvaney combined with Nakatsuka, Hakata and Mizuno

Appellant argues that Nakatsuka, Hakata and Mizuno do not cure the deficiencies of Mulvaney. The examiner asserts that Mulvaney does not have the deficiencies as stated above.

### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Rachel L. Burney/



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Conferees:

/Mark F. Huff/

Supervisory Patent Examiner, Art Unit 1795

/Anthony McFarlane/